Clutch Backing Plate Retaining Ring Specifications

Table 1: 3-5 Reverse Clutch
Table 2: 1-2-3-4 Clutch
Table 3: 4-5-6 Clutch

3-5 Reverse Clutch

Clutch Pack Travel Specification - 1.21-1.79 mm (0.048-0.070 in)		
Retaining Ring Thickness		O.D. Colour
Metric	English	
Important: After measuring clutch pack travel, determine if the measurement is within the specification. If the measurement is not within the specification, measure the thickness of the existing retaining ring, and then choose a thicker or thinner retaining ring that will bring the measurement within specification.		
1.61-1.71 mm	0.063-0.067 in	Gray
1.88-1.98 mm	0.074-0.078 in	Light Green
2.15-2.25 mm	0.085-0.089 in	Yellow
2.42-2.52 mm	0.095-0.099 in	None
2.69-2.79 mm	0.106-0.110 in	Purple

1-2-3-4 Clutch

Clutch Pack Travel Specification - 1.53-1.99 mm (0.060-0.078 in)		
Retaining Ring Thickness		O.D. Colour
Metric	English	
Important: After measuring clutch pack travel, determine if the measurement is within the specification. If the measurement is not within the specification, measure the thickness of the existing retaining ring, and then choose a thicker or thinner retaining ring that will bring the measurement within specification.		
2.15-2.25 mm	0.085-0.089 in	Yellow
2.42-2.52 mm	0.095-0.099 in	None
2.69-2.79 mm	0.106-0.110 in	Purple
2.96-3.06 mm	0.117-0.120 in	Light Blue
3.23-3.33 mm	0.127-0.131 in	Orange

4-5-6 Clutch

Clutch Pack Travel Specification - 1.28-1.89 mm (0.050-0.074 in)		
Retaining Ring Thickness		O.D. Colour
Metric	English	
Important: After measuring clutch pack travel, determine if the measurement is within the specification. If the measurement is not within the specification, measure the thickness of the existing retaining ring, and then choose a thicker or thinner retaining ring that will bring the measurement within specification.		
1.60-1.70 mm	0.063-0.067 in	Yellow
2.02-2.12 mm	0.080-0.083 in	None

© 2010 General Motors Corporation. All rights reserved.

2.44-2.54 mm	0.096-0.100 in	Purple

Fastener Tightening Specifications

Application	Ref. No.	Quantity	Specification	
			Metric	English
Case Extension to Case Assembly	34	6	50 N·m	37 lb. ft.
Control Solenoid Valve Assembly and Control Valve Lower Body Assembly to Control Valve Upper Body Assembly	310	6	8 N·m	71 lb. in
Control Solenoid Valve Assembly and Control Valve Lower Body Assembly to Control Valve Upper Body Assembly	309	10	8 N·m	71 lb. in
Control Solenoid Valve Heat Sink to Valve Body	312	2	8 N·m	71 lb. in
Control Valve Upper Body Assembly to Control Valve Lower Body Assembly	301	12	8 N·m	71 lb. in
Control (with Body and Valve) Valve Assembly to Case Assembly	22	6	8 N·m	71 lb. in
Fluid Pan Assembly to Case Assembly	30	18	9 N·m	80 lb. in
Fluid Pump Cover Assembly to Torque Converter Housing	231	13	11 N·m	97 lb. in
Input and Output Speed Sensor Assembly to Control Valve Upper Body Assembly	302	2	12 N·m	106 lb. in
Line Pressure Test Hole Plug to Torque Converter Housing	202	1	11 N·m	97 lb. in
Manual Shaft Detent Assembly to Valve Body	23	1	12 N·m	106 lb. in
Torque Converter Housing Assembly to Case Assembly	3	9	72 N·m	53 lb. ft.
* Reference number refers to the component callout number in Disassembled Views				

© 2010 General Motors Corporation. All rights reserved.

Fluid Capacity Specifications

Application	Specification	
	Metric	English
Pan Removal - Approximate Capacity	5.7 litres	6.0 quarts
Overhaul - Approximate Capacity	9.9 litres	10.5 quarts
Complete Transmission System Fluid Capacity	10.6 litres	11.2 quarts

© 2010 General Motors Corporation. All rights reserved.

Fluid Pump Selective Specifications

Fluid Pump Selective Specifications

Size Classification	Thickness (mm)	Thickness (in)
Important: • Rotor and slide must be chosen from the same size classification as the oil pump body. • Allowable rotor and slide to fluid pump body end play is as follows: **Specification** • Slide to Fluid Pump Body End Play -- 0.020-0.051 mm (0.0008-0.0020 in) • Rotor to Fluid Pump Body End Play -- 0.020-0.051 mm (0.0008-0.0020 in) The fluid pump assembly has selective rotor and slide components. These components are chosen based on pump body dimensions. Fluid pump rotor and slide components are available in three size classifications (1, 2, 3) with the following tolerances:		
Rotor Selection		
1	17.948-17.961	0.7066-0.7071
2	17.961-17.974	0.7071-0.7076
3	17.974-17.987	0.7076-0.7081
Slide Selection		
1	17.948-17.961	0.7066-0.7071
2	17.961-17.974	0.7071-0.7076
3	17.974-17.987	0.7076-0.7081
Fluid Pump Body Depth		
1	17.98-17.994	0.7079-0.7084
2	17.994-18.007	0.7084-0.7089
3	18.007-18.033	0.7089-0.7100

© 2010 General Motors Corporation. All rights reserved.

Shift Solenoid Valve State and Gear Ratio

Gear	Shift SOL 1	Shift SOL 2	1-2-3-4 CL PC SOL 5 N.L.	2-6 CL PC SOL 4 N.L.	3-5 REV CL PC SOL 2 N.H.	LOW REV 4-5-6 CL PC SOL 3 N.H.	Gear Ratio
Park	ON	ON	OFF	OFF	OFF	ON	--
Reverse	ON	OFF	OFF	OFF	ON	ON	3.06
Neutral	ON	ON	OFF	OFF	OFF	ON	--
1st Braking	ON	ON	ON	OFF	OFF	ON	4.03
1st	OFF	ON	ON	OFF	OFF	OFF	4.03
2nd	OFF	ON	ON	ON	OFF	OFF	2.36
3rd	OFF	ON	ON	OFF	ON	OFF	1.53
4th	OFF	ON	ON	OFF	OFF	ON	1.15
5th	OFF	ON	OFF	OFF	ON	ON	0.85
6th	OFF	ON	OFF	ON	OFF	ON	0.67

For shift solenoids 1 and 2, "ON" = Solenoid Energized (Pressurized) "OFF" = Solenoid De-energised (No Pressure).

For pressure control solenoids, "ON" = Pressurized, "OFF" = No Pressure

© 2010 General Motors Corporation. All rights reserved.

Shift Speed

Maximum Shift Speed (rpm)	Normal Mode
1-2 shift	6500
2-3 shift	6500
3-4 shift	6500
4-5 shift	N/A
5-6 shift	N/A

Important: Shift speed points are affected by many different vehicle and transmission operating conditions. The table above represents shift speed points calibrated at specific throttle angles during normal operating conditions and a temperature range between 0 -130°C (32-266°F). These shift speed points are also based on an axle ratio of 3.42, and assume a production-intent tire size. The table below illustrates a number of different variables that influence these shift speed points. Based on a given operating condition, these variables may override the normal shift speed points. To assist in monitoring the different variables, the respective scan tool data parameter is also listed.

Scan Tool Parameter	Shift Speed Variables
Calculated. Throttle Position	Calculated. Throttle Position (TP) is one of the most important inputs in the transmission shift pattern logic. A very low TP angle will impact the shift pattern by causing upshifts. A very high TP angle will impact the shift pattern by causing downshifts.
Commanded Gear	Based on numerous inputs, the transmission control module (TCM) selects the optimum gear. Once the TCM commands a gear, the pressure control solenoids are activated to hydraulically control engagement of the proper clutch.
Cruise	When cruise control is activated, the shift pattern is altered to reduce excessive shifting.
ECT	Shift speed points may be offset to enhance engine coolant temperature (ECT) warm-up. Also, operating the vehicle at higher engine speeds will reduce the time to warm the ECT and the TFT.
Engine Speed	To protect against an over speed condition, engine speed is monitored. If the engine speed becomes too high, an upshift will occur.
Engine Torque	Engine torque is used to predict vehicle operating conditions, in order to determine the optimum gear and provide for a smoother ride.
IMS	The internal mode switch (IMS) indicates the position of the transmission manual valve. The operator controls this valve by moving the gear range selector. Therefore, the possible gears may be limited by this valve position.
TCC PC Sol. Duty Cycle	The torque converter clutch (TCC) pressure control (PC) solenoid duty cycle indicates when the TCC has been engaged.
TCC Slip Speed	The TCC Slip Speed indicates the difference between engine speed and transmission input speed. The TCC is locked when slip speed is at or near zero, and may be controlling slip when at lower slip speeds.

© 2010 General Motors Corporation. All rights reserved.

TFP Switch 1, 3, 4 or 5	The transmission fluid pressure (TFP) switch is used to indicate if fluid pressure to a specific clutch has been applied or released.
Trans. Fluid Temp.	A lower TFT will extend shift speeds, a higher TFT, or hot mode condition, will invoke shorter shift speeds in order to establish a shift pattern required to cool the TFT.
Transmission Hot Mode	If the TFT becomes too hot, a hot mode shift pattern is used. The hot mode shift pattern will invoke lower shift speed points to establish a shift pattern necessary to cool the TFT.
Transmission OSS	The transmission output speed sensor (OSS) is one of the most important inputs into the transmission shift pattern logic. A very low transmission output speed will impact the shift pattern by causing downshifts. A very high transmission output speed will impact the shift pattern by causing upshifts.

Transmission General Specifications

Name	6L80
RPO Codes	MYC
Transmission Drive	Rear Wheel Drive
1st Gear Ratio	4.027
2nd Gear Ratio	2.364
3rd Gear Ratio	1.532
4th Gear Ratio	1.152
5th Gear Ratio	0.852
6th Gear Ratio	0.667
Reverse	3.064
Torque Converter Size - Diameter of Torque Converter Turbine	300 mm
Pressure Taps	Line Pressure
Transmission Fluid Type	DEXRON VI®
Transmission Fluid Capacity	11.7 L (12.4 qt)
Transmission Type: 6	Six Forward Gears
Transmission Type: L	Longitude Mount
Transmission Type: 80	Product Series
Position Quadrant	P, R, N, D, +/-
Case Material	Die Cast Aluminium
Transmission Net Weight (Approximate)	103.5 kg (228 lb.)
Maximum Trailer Towing Capacity	Refer to applicable owner's manual

© 2010 General Motors Corporation. All rights reserved.

Transmission Internal Mode Switch Logic

Gear Selector Position	Signal A	Signal B	Signal C	Signal P
Park	LOW	HI	HI	LOW
Park/Reverse	LOW	LOW	HI	LOW
Reverse	LOW	LOW	HI	HI
Reverse/Neutral	HI	LOW	HI	HI
Neutral	HI	LOW	HI	LOW
Neutral/Drive 6	HI	LOW	LOW	LOW
Drive 6	HI	LOW	LOW	HI
Drive 6/Drive 4	LOW	LOW	LOW	HI
Drive 4	LOW	LOW	LOW	LOW
Drive 4/Drive 3	LOW	HI	LOW	LOW
Drive 3	LOW	HI	LOW	HI
Drive 3/Drive 2	HI	HI	LOW	HI
Drive 2	HI	HI	LOW	LOW
Open	HI	HI	HI	HI
Invalid	HI	HI	HI	LOW
Invalid	LOW	HI	HI	HI

HI = Ignition voltage

LOW = 0 volts

© 2010 General Motors Corporation. All rights reserved.